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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/737,088	12/16/2003	Thomas L. Kelly	KES-0003	5181
23413	7590	07/26/2007		
CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			EXAMINER A, PHI DIEU TRAN	
			ART UNIT 3637	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/737,088	Applicant(s) KELLY, THOMAS L.	
	Examiner Phi D. A	Art Unit 3637	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kelly (6006482).

Kelly (figure 31) shows a roof system comprising a roof deck (12), a primary waterproofing membrane (the layer directly above the deck layer) disposed over at least a substantial portion of the roof deck, a roof insulation layer (112 below top layer 14) loose laid over primary waterproofing membrane, an energy absorbing layer (14, the layer below layer 9) supported by the insulation layer, the energy absorbing layer is of a different material than the insulation layer, a secondary waterproofing membrane (9) loose laid over the energy absorbing layer, the energy absorbing layer is gypsum board, joints in the insulation layer are offset from joints in the energy absorbing layer (inherently so the layer lays offset from any joint of the energy layer).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1-2, 6, 9-17, 22-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482).

Kelly (figure 31) shows a roof system comprising a roof deck (12), an insulation layer (112, the layer below top layer 14) supported by the roof deck, a frangible energy absorbing layer (14 upper layer, gypsum board inherently is frangible) supported by the insulation layer, the energy absorbing layer is of a different material than the insulation layer, a waterproof membrane (9) loose laid over the frangible energy absorbing layer, the energy absorbing layer being gypsum board, the joints in the insulation layer being offset from joints in the energy absorbing layer (inherently so as the insulation layer lays offset from the joint of the energy absorbing layer), the deck is air sealed, the membrane(9) is air sealed to a wall structure (26), the membrane is installed with at least one intentional wrinkle (figures 15,25-26), the at least one wrinkle is located at a perimeter edge of the deck (where part 9 bent from horizontal to vertical to attach to part 26), the at least one wrinkle is located within a field of the membrane (figures 15, 25-26), the at least one wrinkle is located at protrusions (figure 15, 25-26) of the roof membrane, the at least one wrinkle is located at both a field of the membrane and perimeter edge of the roof deck, the at least one wrinkle is adhered to an underlying layer (88, 67 figures 15, 25-26) of the system with an adherent (16, 16) composed to yield to shear force thereon, a wind blown debris resistant roof system comprising a roof deck (12, figure 31), a layer of stiff material (110) attached to the roof deck, a primary waterproofing membrane (the layer 14 directly above layer 110) supported by the stiff material, a roof insulation (112, the lower layer 14) and frangible energy absorbing layer (14, the layer below layer 9 and above the lower layer 14) loose laid over the primary water proofing membrane, a secondary waterproofing membrane (9)

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disposed over the frangible energy absorbing layer, a preexisting roof assembly that is air sealed underlying at least the energy absorbing layer.

Kelly does not show the insulation layer being more resilient than the roof deck.

Kelly (figure 12) discloses the use of concrete and metal decking material to form a roof support.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly' structure figure 31 to show the use of concrete and metal decking material to form a roof support because concrete and metal deck would form a strong roof.

Kelly as modified shows the insulation layer being more resilient than the roof deck as the roof deck is comprised of concrete and metal.

5. Claims 1-2, 6, 9-17, 22-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482) in view of Pearson (5560150).

Kelly (figure 31) shows a roof system comprising a roof deck (12), an insulation layer (112, the layer below top layer 14) supported by the roof deck, a frangible energy absorbing layer (14 upper layer, gypsum board inherently is frangible) supported by the insulation layer, the energy absorbing layer is of a different material than the insulation layer, a waterproof membrane (9) loose laid over the frangible energy absorbing layer, the energy absorbing layer being gypsum board, the joints in the insulation layer being offset from joints in the energy absorbing layer (inherently so as the insulation layer lays offset from the joint of the energy layer), the deck is air sealed, the membrane(9) is air sealed to a wall structure (26), the membrane is installed with at least one intentional wrinkle (figures 15,25-26), the at least one wrinkle is located at a perimeter edge of the deck (where part 9 bent from horizontal to vertical

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to attach to part 26), the at least one wrinkle is located within a field of the membrane (figures 15, 25-26), the at least one wrinkle is located at protrusions (figure 15, 25-26) of the roof membrane, the at least one wrinkle is located at both a field of the membrane and perimeter edge of the roof deck, the at least one wrinkle is adhered to an underlying layer (88, 67 figures 15, 25-26) of the system with an adherent (16, 16) composed to yield to shear force thereon, a wind blown debris resistant roof system comprising a roof deck (12, figure 31), a layer of stiff material (110) attached to the roof deck, a primary waterproofing membrane (the layer 14 directly above layer 110) supported by the stiff material, a roof insulation (112, the layer below the top layer 14) and frangible energy absorbing layer (14, the layer below layer 9 and above the lower layer 14) loose laid over the primary water proofing membrane, a secondary waterproofing membrane (9) disposed over the frangible energy absorbing layer, a preexisting roof assembly that is air sealed underlying at least the energy absorbing layer.

Kelly does not show the insulation layer being more resilient than the roof deck.

Pearson discloses the use of concrete and metal decking material to form a roof.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly' structure figure 31 to show the use of concrete and metal decking material to form a roof because concrete and metal deck would form a strong roof as taught by Pearson.

Kelly as modified shows the insulation layer being more resilient than the roof deck as the roof deck is comprised of concrete and metal.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482).

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Kelly as modified shows all the claimed limitations except for the gypsum board being ½ inch thick.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's modified board to show the board being ½ inch thick because it would provide for good supporting strength and insulation for the roof.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482) in view of Pearson (5560150).

Kelly as modified shows all the claimed limitations except for the gypsum board being ½ inch thick.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's modified board to show the board being ½ inch thick because it would provide for good supporting strength and insulation for the roof.

8. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482) in view of Nurley et al (6250036)

Kelly as modified shows all the claimed limitations except for the membrane being fiberglass reinforced, the membrane being about 80 mil fiberglass reinforced or thicker.

Nurley et al ( col 6 lines 28-45) discloses felt heavily reinforced with fiberglass would provide the properties of silencing sound, cushioning effect and deform slightly when forces are applied generally perpendicular to upper and lower surface of the material.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's modified board to show the membrane being fiberglass reinforced, the membrane being about 80 mil fiberglass reinforced or thicker because having the felt being

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fiber glass reinforced would provide the properties of silencing sound, cushioning effect and deform slightly when forces are applied generally perpendicular to the surface of the material as taught by Nurley et al, and these properties are desired for a roofing membrane, and having the membrane being 80 mil fiberglass reinforced or thicker would have been obvious to one having ordinary skill in the art as it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art, In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

9. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482) in view of Pearson as applied to claim 1 above, and further in view of Nurley et al (6250036).

Kelly as modified shows all the claimed limitations except for the membrane being fiberglass reinforced, the membrane being about 80 mil fiberglass reinforced or thicker.

Nurley et al ( col 6 lines 28-45) discloses felt heavily reinforced with fiberglass would provide the properties of silencing sound, cushioning effect and deform slightly when forces are applied generally perpendicular to upper and lower surface of the material.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's modified board to show the membrane being fiberglass reinforced, the membrane being about 80 mil fiberglass reinforced or thicker because having the felt being fiber glass reinforced would provide the properties of silencing sound, cushioning effect and deform slightly when forces are applied generally perpendicular to the surface of the material as taught by Nurley et al, and these properties are desired for a roofing membrane, and having the membrane being 80 mil fiberglass reinforced or thicker would have been obvious to one having



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ordinary skill in the art as it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art, *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

10. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482) in view of Bennett.

Kelly as modified shows all the claimed limitations except for the insulation layer is of a resilient material.

Bennett shows the insulation layer is of a resilient material (polystyrene polymer foam, inherently resilient).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's modified structure to show the insulation layer is of a resilient material as taught by Bennett because resilient foam would enable the insulation to provide proper air seal for the roof.

Per claim 8, Kelly as modified shows all the claimed limitations except for the resilient material being about 1.5 inch thick or more.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's board to show the resilient material being about 1.5 inch thick or more because it would provide for good air sealing for the roof.

11. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482) in view of Pearson as applied to claim 1 above, and further in view of Bennett.

Kelly as modified shows all the claimed limitations except for the insulation layer is of a resilient material

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Bennett shows the insulation layer is of a resilient material (polystyrene polymer foam, inherently resilient).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's modified structure to show the insulation layer is of a resilient material as taught by Bennett because resilient foam would enable the insulation to provide proper air seal for the roof.

Per claim 8, Kelly as modified shows all the claimed limitations except for the resilient material being about 1.5 inch thick or more.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's modified insulation layer to show the resilient material being about 1.5 inch thick or more because it would provide for good air sealing for the roof.

12. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482) in view of Bennett.

Kelly shows all the claimed limitations except for the insulation layer is of a resilient material

Bennett shows the insulation layer is of a resilient material (polystyrene polymer foam, inherently resilient).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's structure to show the insulation layer is of a resilient material as taught by Bennett because resilient foam would provide for good air sealing for the roof.

13. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482) in view of Pearson as applied to claim 1 above, and further in view of Bennett.

Kelly (figure 31) shows a roof system comprising a roof deck (12), a roof insulation layer (14, lower layer) disposed upon the roof deck, at least 0.5 inch of gypsum board (14 upper layer) disposed upon the insulation layer, the insulation layer is configured to compress to allow energy absorption when the gypsum is struck by an object (inherently so as it is made of gypsum board which would compress when struck), a loose laid, non-reinforced waterproofing membrane (9) with fabricated wrinkles disposed upon the gypsum board.

Kelly does not show the insulation layer being resilient.

Bennett shows an insulation layer is of a resilient material (polystyrene polymer foam, inherently resilient).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's structure to show the insulation layer is of a resilient material and made of expanded polystyrene as taught by Bennett because resilient foam would provide good insulation for the roof structure as taught Bennett .

### ***Response to Arguments***

14. Applicant's arguments with respect to claims 1-30 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phi D A whose telephone number is 571-272-6864. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lanna Mai can be reached on 571-272-6867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phi Dieu Tran A



7/22/07

LANNA MAI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600

